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TEACHING READING. WHAT RESEARCH SAYS TO THE TEACHER, NO. 1.

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ASSOCIATION OF CLASSROOM TEACHERS, WASHINGTON,D.C.

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SOME IMPLICATIONS OF RESEARCH ARGUMENTS ARE PRESENTED FOR THE ENCOURAGEMENT OF WIDER AND MORE RAPID READING AND FOR THE DEVELOPMENT OF THE VARIED SKILLS BASIC TO SUCCESS IN ANY TYPE OF READING. IT IS SUGGESTED THAT READING BE TAUGHT WITHIN THE CONTEXT OF A WELL-ROUNDED LANGUAGE ARTS PROGRAM IN A MANNER THAT WILL PROMOTE EFFECTIVE LEARNING IN ALL CURRICULUM AREAS. TO HELP TEACHERS ACHIEVE THIS GOAL, FACTORS THAT AFFECT LEARNING TO READ, PRINCIPLES OF READING INSTRUCTION, AND SOME BASIC READING TECHNIQUES ARE PRESENTED. THE RELATIVE MERITS OF THE METHODS OF TEACHING READING WHICH ARE NOW THE SUBJECT OF CONTROVERSY ARE DISCUSSED. THIS PAMPHLET OFFERS TOPICS FOR FURTHER DISCUSSION AND SELECTED REFERENCES FOR THE IMPROVEMENT OF READING INSTRUCTION AND FOR PROFESSIONAL GROWTH. THIS DOCUMENT IS ALSO AVAILABLE FOR $.25 FROM THE NATIONAL EDUCATION ASSOCIATION, 1201 SIXTEENTH STREET, N.W., WASHINGTON, D.C. 20036. (NS)

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WHAT RESEARCH SAYS TO THE TEACHER

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LEVEL II

Teaching Reading

Arthur I. Gates

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To serve the first purpose, authors of booklets in the series select from each field those research findings that promise to be of most help to the classroom teacher. However, research has not yet provided scientifically valid findings on many aspects of teaching. In such cases, the best that can be offered is expert opinion.

It is impossible, of course, to provide a complete summary of research in any field in 32 pages. To help teachers further explore research findings, selected references are listed at the end of each booklet in the series.

The series was initiated in 1953 by the Department of Classroom Teachers and the American Educational Research Association under the leadership of Frank W. Hubbard, in his capacities as director of the Research Division, secretary-treasurer of the AERA, and assistant executive secretary of the NEA. Beginning in 1966, the Department of Classroom Teachers assumed full responsibility for publication of the series, with the assistance of the NEA Publications Division. One measure of the success of the series is the use of approximately two million copies of the booklets by educators in the United States and throughout the world.

New titles and revisions of existing titles are published each year. See the outside back cover for a list of current booklets.

SIDNEY DORROS, *Series Editor*

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Teaching Reading

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EXPLANATION

This booklet seeks to present the implications of research to classroom teachers. It is not a summary of research studies on reading, but it highlights many of the practical suggestions for the teaching of reading that research has produced. The text also draws upon research studies in such areas as psychology, child development, sociology, and semantics.

The recommendations in the pamphlet are those which the author, Arthur I. Gates, of Teachers College, Columbia University, believes to be supported by research. A number of changes have been made in this revised edition as compared with the original version issued first in June 1953 and the revised edition of 1962.

The 1953 edition was prepared with advice from Donald D. Durrell, Boston University, and Guy T. Buswell, of the University of California (Berkeley). Dr. Buswell also read the manuscript of the 1962 revised edition. While parts of the 1953 pamphlet have been included in the present edition, the author assumes responsibility for the revised version.

In general, the editing of the text has followed the practices of the Information Services of the National Education Association and the NEA Publications Division, under the supervision of the editor of the series.

TEACHING READING

READING is a medium for keeping informed and learning in all areas of human concern. It can be made an art of great utility in the most subtle types of thinking, discriminating, reasoning, judging, evaluating, and problem solving. Many advanced and specialized types of reading are needed for efficient learning in history and other social studies, in mathematics and science, and, indeed, in all areas in which ideas and principles are involved. Reading should no longer be regarded as a number of simple skills which can be taught for all purposes in a few months of schooling. On the contrary, reading embodies a complex array of abilities which can be developed only in the course of many years of instruction.

WIDE READING OF MAJOR IMPORTANCE

A major objective of modern education is to develop well-informed and intelligently active citizens. To be a wise citizen today one must be widely informed and shrewdly discriminating. We have much to learn in every area of human concern—physical and mental health; social, economic, and political life; science and industry; interpersonal and international relations.

Changes now appearing in the patterns of living and in the character of reading material have increased the importance of skillful reading. For example, the increase in time for leisure provides more opportunity for reading for enjoyment and self-improvement. Publishers are now producing more and better fiction and popular science literature and material relating to various vocations and avocations. "How to do it yourself" books have economic as well as recreational value. Travel is increasing greatly, and books and magazines read before, during, and after trips are becoming popular. In general, more leisure time and freedom to explore one's environment have added greatly to the zest for reading to extend one's intellectual and physical horizon. Radio, motion pictures, and television have not replaced read-

ing. These media, by stimulating interest in travel, craftsmanship, dramatics, sports, industry, science, and other phases of daily life, have increased interest in reading. In addition, the paperback revolution has made our literary heritage more widely available than ever before. Both children and adults have more reading material at hand and do, in fact, read more and with greater skill today than in the past.

Better Reading Imperative Today

The need to learn more in increasingly numerous and varied fields has brought with it the demand that both children and adults learn to read better today than in the past. A half-century ago, when the average family had relatively little reading matter at hand, ability to read in a limited variety of ways and at a slow pace was fairly adequate, but such limited skill today would be inadequate to meet the demands of many jobs, not to mention the need to keep pace with the stream of new developments, ideas, and problems which pour daily from the press. The school must set up as one of its objectives the development of more rapid, more varied, and more subtle reading skills than were considered necessary a generation ago.

READING AND THE CURRICULUM

A modern school curriculum penetrates deeply into many areas of subject matter. Facts and principles relating to health, science, and many other subjects formerly not available at all or introduced only in the high school or college are now a part of the elementary school program.

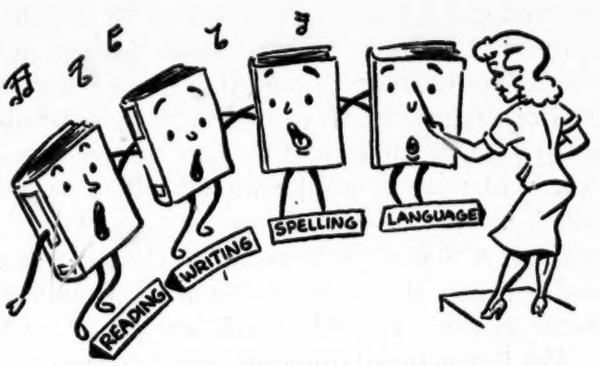
The kind of reading best suited to enjoying a light piece of fiction is different from the patterns of reading most useful for a careful study of the directions for driving an automobile or understanding a principle in mathematics, and both are quite different from the most effective method of skimming the daily newspaper or proofreading.

Reading—One of the Language Arts

What a child learns in one language art affects his performance in others. Reading, listening to spoken language, speaking,

carrying on discussions, writing, and spelling are all closely related. The way a child learns to listen to the spoken word before he enters school affects his approach to reading. The teacher's management of oral reading in the classroom may have a permanent effect upon the way the child talks to others. The methods a child develops to work out the recognition and pronunciation of printed words may affect his methods in spelling. Indeed, the program in spelling is a more suitable place than instruction in reading for the development of word analysis and word study skills, and the typical American spelling courses provide a larger amount of it. Reading must be taught in the context of a well-rounded language arts program. Each of the special linguistic skills should be developed in such a manner as to contribute as much as possible to the development of the other language skills.

Close harmony for good results



Reading—The Basis of the Total School Program

Each subject matter area requires certain specialized patterns of reading abilities. Reading, therefore, should be taught in connection with, or as a part of, all school activities and in a manner that will foster the most effective learning in all phases of the curriculum. The kind of reading abilities learned in a school depends greatly on the objectives set up for the various subjects and on the materials and procedures employed in teaching them. Many schools, for example, provide instruction in the types of reading important in out-of-school life, such as the reading of newspapers, business reports, and traffic laws. What the pupil

does in all areas of learning depends in great measure on how the development of his reading abilities is guided in all his school activities.

GENERAL PATTERN OF INSTRUCTION IN READING

Reading is taught in most schools today by a general pattern or program of activities which has evolved during nearly a century of research and practical experience. This program is based on the assumption that the first step in teaching reading should be to help the child do what he most wants to do, namely, to read the words which he encounters on electric and other signs on the streets and in stores, in newspapers, catalogues, magazines, books, handbills—everywhere. Research done long ago showed that a normal child, with a bit of help, can learn to read a number of these words readily without previous mastery of the letters or their sounds. It seemed sensible, therefore, to get real reading under way at once. Easy, carefully graded materials are provided for a time to help the youngster pick up enough words to read senseful material. He is encouraged to read as much as he can and to learn as many words as he can, both in and out of school. A large and varied selection of suitable material in each classroom is essential; a similar collection in the home is desirable. The basic activity is wide reading.

The instructional program consists of two closely related activities: work with teaching materials and direct instruction (diagnosis, explanations, demonstrations, hints) provided by the teacher.

Types of Teaching Materials

The teaching materials most widely used consist of a series of basal readers with accompanying workbooks or preparatory books or study books. The basal readers and accompanying workbooks are designed primarily to teach reading—not literature or science or any other subject. All such subject matter is handled better at other times and in other ways. This policy is based in part on evidence from many studies indicating that

literature and other reading materials are better read and studied without the interruptions and distractions which the teaching of reading skills usually demands. Work with readers and study books should require but a fraction of the total time devoted to reading. The major activity is wide reading of many kinds of material.

The teaching materials are not limited to readers and workbooks. Chalkboards, bulletin boards, projectors, practice books, diagnostic tests, wall charts, television, programed materials, and teaching machines are in this category.

Crucial Role of the Teacher

Work with such teaching materials is designed to develop as far as possible the abilities needed to read well. It has been found, however, that use of such instructional materials alone is insufficient. The classroom teacher must provide much additional help. He should indeed be sufficiently well informed and resourceful to teach every important interest and ability, including especially the most subtle attitudes and techniques involved in efficient reading. Even if at some time in the future much of the instruction can be done by largely automatic machines, the teacher should not be the mechanic who operates the mechanism, but the engineer who understands its operation completely. The typical current series of basal readers and workbooks leave most of the vital instruction to the teacher. The "Teachers Manual" offers suggestions concerning the amount and character of this work, but major decisions about it, as well as the conduct of it, must be left to the judgment of the teacher. Only in this way can the reading program as a whole be adjusted to the characteristics of the total school program, to the available teaching facilities, and to the interests and talents of individual children and the teacher.

FACTORS THAT AFFECT LEARNING TO READ

The problem of guiding the pupil so that he will continue to develop both his reading abilities and his interests at a healthy rate and in an increasingly efficient form is not a simple one, but research has afforded many suggestions for the classroom teacher.

Methods and Materials of Instruction

If the teacher handles the subjects by assigning a limited number of pages to be studied daily, the pupil is most likely to learn how to read short assignments. He will not be stimulated to learn to do wide selective reading; to digest, compare, and evaluate different views; and to discuss them freely.

The teacher should take advantage of every opportunity to provide abundant material by establishing contacts with public libraries and bookmobiles and by securing as much inexpensive and free material as possible. Books, magazines, and newspapers may be borrowed. Catalogues, bulletins, industrial and commercial pamphlets, travel folders, and government agency reports may be obtained free. Many worthwhile books are available in inexpensive paperback form.

Home and Community Incentives and Facilities

The evidence from research is that the best readers tend to be pupils whose homes are well supplied with books, magazines, newspapers, and other reading matter, and in whose homes other members of the family habitually read and enjoy it. Poor readers, other things being equal, tend to come from homes in which there is little interest in, or opportunity for, reading. Often one of the best ways to improve a child's reading is to encourage it and provide for it in the home.

Teacher Attitudes

The home, the community, and sometimes the school regard a child's success in learning to read as the most crucial test of his intellectual and educational equipment. If he learns to read well, all is well; if he does not, he may be regarded as a failure or a dullard, or both. Teachers as well as parents may be unduly anxious about the child's progress in reading. Most children quickly sense this anxiety and are, therefore, very sensitive to the teacher's attitude toward them.

Reading skills are subtle and difficult to learn. If the child becomes anxious and insecure, emotional tensions may seriously interfere with his efforts to learn. Teachers may unintentionally

contribute to such feelings of insecurity and tension. Occasional mistakes or confusion in oral reading, for example, may have disastrous effects unless the teacher has the knack of taking them casually and the ability to restore the child's confidence. The atmosphere of the schoolroom and the attitude which the pupil infers from the teacher's conduct are of utmost importance.

Student Growth Rate and Status

Research has shown that the child's success in learning to read is influenced by mental, physiological, and social maturity and by specific types of knowledge and skill. A good indication of intellectual maturity is the "mental age" as given by individually administered intelligence tests. Social maturity can be appraised by the extent to which the pupil can listen to, talk to, and otherwise freely engage in cooperative activities with the teacher and other adults and children. Other aspects of maturity also can now be estimated fairly reliably.

An example of particular skills is the ability to listen to and follow the thread of a story—the story sense. The child who is able to gather up the threads of the story will, when he begins to read, be able to anticipate the forthcoming words and ideas appearing on the printed page. The ability to get the meaning of the story conveyed by a pictorial illustration is another useful skill. A child who, before coming to school, has played with picture books which contain words and letters will usually learn a number of things that facilitate his learning, even if he cannot read a single word.

Learning to read depends upon such attainments as an ear for noting the separate sounds in spoken words, visual discrimination of words and word elements, proficiency in listening to and talking about stories, ability to attend to and remember what the teacher says, ability to give sustained attention to desk-type work, and many other skills which may be taught, most of them before full-fledged reading is undertaken.

At six years of age children differ greatly in the degree to which they are advanced in intelligence, social and emotional maturity, and various types of information and skill which function in learning to read. These are called the bases of "reading readiness." Some can learn to read with a minimum of

individual guidance and help, others will need a great deal, and an occasional child will require more help than even the best teacher can give in a typical class. We now know that the degree of readiness needed for one program may be insufficient for another. There is no such thing as an ideal or minimum mental age for learning to read. A child may be fully "ready" to learn under Teacher A, but unequal to the more severe demands or the less skilled teaching of Teacher B. We should, therefore, establish a policy of starting each child learning to read when he is sufficiently ready for the particular program and teacher he is to work with. Research shows, moreover, that readiness is *not something merely to be waited for;* it is something to be developed by good teaching and tested by various means now available, such as formal or informal tests or an experimental period of actual teaching.

What is true of beginning reading is true of all later stages. Children grow in all respects—physically, mentally, emotionally, socially, educationally—at different rates. A few children will learn to read silently at a speed greater than the average speaking rate (160 words per minute) before the end of the first grade; others will not exceed this rate by the middle of the third grade. Some children will learn to recognize enough words and develop enough independence in word recognition and other reading skills during the first year to enable them to read books of typically fourth-grade or even higher level, whereas others, despite equally good teaching, will barely be able to

read second-grade books. After three years of instruction, the range will be still greater.

Individual Differences

The problem of adjusting instruction in reading to meet the wide variation among children of the same age is probably the most difficult problem the teacher has to face. Research, however, has suggested various procedures which will help teachers meet individual needs.

By providing an abundance of reading material covering a wide range of difficulty and subject matter; by teaching children how to work together, in pairs and in groups of three or more; by helping them to help each other; by developing each child's competence to learn by himself; by employing self-teaching material; by making effective use of tests and diagnostic material; by encouraging individual, small group, and class projects which pupils can carry forward with a minimum of teacher guidance; by teaching children individually and in small groups: by these and other means the teacher tries to meet the reading needs of his pupils.

There is no escaping the fact, however, that it is necessary for the teacher to have the insight and time to become aware of each pupil's abilities, difficulties, and needs and to provide skillful individual help. In organizing a program for teaching reading, all methods, materials, and procedures should be appraised for this purpose as well as for others.

Pupil Attitudes

While it is true that children rarely love to read unless they can read well, it is equally true that children rarely learn to read well unless they enjoy reading. This is especially characteristic of today because there are so many other ways of entertaining oneself. Motion pictures, radio, television, comics, and a miscellany of modern mechanical gadgets provide competing forms of entertainment. In one study in a metropolitan area it was found that the large majority of the relatively poor readers were children who read very little except what they were required to read in school. When inquiries were made, these

children reported that they did not read much because the reading they did in school had always been in the form of hard study of some school subject. They had not learned to enjoy reading. As a consequence, they sought in other avenues the satisfactions which reading might have given them.

Zest for reading may be killed by such things as rigid teaching procedures, failure to help the pupil acquire the skills needed to read easily and understand well, and too much pressure or discipline, which induces the pupil to fight back and to sidestep the activity. Interest is influenced by the character and attractivenes of the reading material at hand. It is affected by the teacher's skill in guiding the pupil to read material suitable in difficulty and appealing in subject matter. It is greatly influenced by the teacher's ability to provide means of enabling each child to make good use of what he has read. If the pupil, having read a book, wants to do nothing about it, the alert teacher senses this and leaves him alone. If he wants to tell everybody all about it, the wise teacher provides the audience. If he wants to plan a dramatization of the story, to tell the story in a series of drawings, to write the author a criticism, or to start a campaign to improve the community, the far-sighted teacher is delighted and assists as far as conditions permit. The perceptive teacher regards evidence of enjoyment as a sign of vitality which promises to energize the efforts to acquire greater skill and to provide a solid foundation for improving taste. He will recognize that any outright effort to prove one selection superior to another by resort to logical or literary principles or to demand formal reports of what the pupil likes and why he likes it may at times do more harm than good. Effective working habits and discriminating taste are both guided by more subtle maneuvers—by making the most out of every opportunity to increase the pupil's enjoyment.

UNDERSTANDINGS BASIC TO SUCCESSFUL READING INSTRUCTION

The competent teacher has acquired an understanding of most of the complex skills involved in reading and has learned how to size up each child and help him do better. It should be under-

stood, however, that this not easily done; indeed, it is quite impossible to do unless the teacher adopts procedures which will enable him to work with the individual pupil long enough to understand his particular difficulties and needs.

Reading Is a Complex and Subtle Process

It is often incorrectly assumed that the skills involved in reading are rather simple and obvious. They are not. When a child tries to learn to recognize a word, he may pursue any one or several of many different procedures, some excellent, some fair, some poor. In any event, no one method is best for all words; the child needs to learn how and when to use a number of different techniques. The habits a child has learned for recognizing all other objects—geometrical figures, pictures, patterns, objects large and small—are only partly useful; some of them are definitely misleading. For example, a child cannot successfully learn words unless he views them invariably from left to right. This is not true of anything he has ever previously encountered. The techniques he has laboriously learned in order to distinguish one face from another will lead him astray when he tries to recognize words. It is difficult to tell what a child actually is doing when he studies a word. A child's eye movements and methods of observation are so rapid and subtle that one cannot discern them merely by looking at him. Reading depends upon a large number of other equally subtle skills which are difficult to demonstrate and to observe.

The teacher would have much less difficulty if he could see as readily what the child is doing when trying to read as when the child is learning to operate a typewriter or draw a picture. Decades of diligent study, however, have revealed many of the processes involved in competent reading performance and have uncovered ways in which well-informed teachers can determine quite well what the pupil is doing and how to steer him away from poor procedures into better ones.

Reading Techniques Must Be Taught Definitely

In learning to read, as in learning all other complex skills, a learner is not at all sure to hit upon the better techniques "nat-

urally." It is a rare person—child or adult—who, left to his own devices, will learn anything but a poor hunt-and-hit method of using a typewriter, or a slap-and-swat method of playing tennis, or a wild swing in stroking a golf ball. Unguided trial-and-error learning in all these areas rarely produces good techniques, even though it may yield superficially satisfying results. For example, by hunting and hitting with two fingers, a person may type off a legible letter more quickly than he would if he started to master a proper technique; but if the person persisted in the poor method, he would never become a skilled typist. Children are prone to stray off into poor procedures at many points in the process of learning to read. The best techniques are typically more complex and more difficult in the beginning than are those hit upon naturally or by trial and error. To teach a child to read well, the teacher must not only know the better techniques, but he must also know how to teach them.

Instruction Should Be Continued for Many Years

Reading, like other complicated skills, is one that cannot be learned once and for all in a year or two of instruction, however excellent. Even the superior learners profit by continued guidance throughout the elementary school and into higher levels. A simple letter sounding or "look-and-say" technique may be quite adequate for the limited vocabulary used in grade 1, but inadequate to deal with complex, nonphonetic, or polysyllabic words in the intermediate grades. If a child can read simple prose silently at 160 words a minute, he can meet most of the demands of the first two or three years in school, but he should push ahead to more rapid reading, including skipping and skimming, to handle the requirements of the years following.

Teachers in the intermediate and upper grades sometimes become so interested in the products of reading—that is, in the facts and ideas learned in the various subjects—that they forget to note the process. They may mistakenly assume that a child who learns the material and reports it well is necessarily a skilled reader. Sometimes pupils rated as best in the content subjects are deficient in their reading skills. An example is a girl, first in her class of 125 pupils in the sophomore year of high school, who

could not read any material, however simple, more rapidly than 150 words a minute, and who was quite unable to skip and skim a catalogue or an advertisement in a newspaper. The teacher must address himself deliberately and directly to diagnosing pupils' abilities and to guiding children in the development of good reading techniques at all grade levels.

Pupils Should Develop Ability To Help Themselves

Although reading skills are complex, children nevertheless can, from an early stage, learn to identify many important techniques and become interested and able to guide their own learning. Expert teachers can now demonstrate many of the faults and pitfalls in the course of reading. They can show the child how to select and use material appropriate to his purposes and how to direct his learning along the most fruitful lines. Once a child learns some of the "tricks of the trade," the development of greater skill, in figuring out unfamiliar words, for example, may become an absorbing game for him. Once he achieves some insight and responds actively to the challenge, the game is half won. Children become surprisingly competent in helping each other. As long as teachers have as much to teach and as many pupils to handle as they have today, they should make the most of the possibilities of helping the pupils learn how to learn by themselves. In the near future, teaching machines and programed material should help greatly.

Abilities Develop Continuously Through Stages

Reading abilities tend to move forward from each level to a higher one, and certain types of performance must evolve from a simpler or lower stage. An attempt to force a child to acquire an ability too far in advance of his present performance may be futile and frustrating. For example, it is a mistake to put pressure on some pupils to read more rapidly by "thought units"—that is, by two or more words at a single fixation—until they have reached a fairly high level of skill in recognizing single words. When word perception is well advanced, however, the pupil may not push forward to reading by "thought units" without encour-

agement and guidance from the teacher and without his own efforts to do so. There are many other instances in which "developmental sequences" of this sort should be understood and skillfully managed by the teacher.

A few of the older programs for teaching reading, however, are based on the mistaken assumption that many important abilities followed a series of sharply defined steps when in fact they developed on a continuous, or nearly continuous, front of increasing complexity. For example, it used to be thought that children's comprehension at the beginning consisted in mere recognition of what the passage said, that little thinking was possible. From the beginning, children can be induced to engage in many forms of thinking during their reading. In early stages they can read for the purpose of summarizing or outlining or judging or applying or evaluating what they read. These skills should not be disregarded until the third or fourth grade, but encouraged from the start. Beginners will not read as intelligently and subtly at first as they will later, but the differences are in terms of degree, not of kind.

While carrying forward a richly varied program of reading, the teacher will watch both the total performance and its component processes. If the pupil shows failure to gain in all-round ability, the teacher will seek to determine what components are out of balance. A component skill may move forward either too rapidly or too slowly for the good of the whole. Thus a pupil may push his skill in working out the recognition of words by sounding letters to a point where it blocks the growth of ability to use larger word parts, a practice which, uncorrected, will lead to trouble in later grades. A pupil may push his speed of reading so far that it results in inadequate comprehension or may let it advance so slowly that it results in unnecessarily thorough attention to details.

Reading Abilities Require Varied Materials and Methods

One of the objectives of education is the development of those abilities needed to read efficiently and intelligently a great variety of materials—not only fiction in magazines and books but also

encyclopedias, catalogues, advertisements, newspapers, manuals of directions, trade journals, and many technical materials such as those embodied in upper-grade and high school courses in mathematics, physics, and chemistry. The social studies and literature call for specific abilities, too.

The best ways of reading differ according to the nature of the content, the form of organization, and the reader's purpose. The most effective way of attacking a reading assignment in geometry, for example, is usually different from the best procedure to employ in canvassing a file of newspapers to find items bearing on a particular topic or merely "seeing what is in" the new Sears' catalogue. A selection in the encyclopedia should be read differently if the pupil merely wants to get a general idea of the passage than if he requires a grasp of detailed facts. While it is necessary to provide pupils with experience in a wide array of reading material and purposes, it is insufficient merely to turn the pupils loose upon these materials. The teacher should know how to distinguish good techniques from poor ones and how to help the pupils acquire the better ones in each of these fields. He should also constantly encourage the pupil to try to analyze and direct his own learning and test his own development.

It is not sufficient that the reading program teach children effective reading techniques. An important objective is developing an interest in, and a taste for, the superior types of content. The most obvious illustration is developing a taste for better literature. The term "literature" is usually employed to mean works of fiction, popular science, essays, poetry, and the like. It is also important to develop an interest in reading about the vital topics of the day in newspapers, magazines, trade reports, government pamphlets, and other publications.

Fortunately, there are now available newspapers and other similar materials which may be fruitfully used in the classroom as early as the first or second grade. We have previously stressed the importance of teaching the methods of reading efficiently; it is important to make these materials vital and absorbing by employing them in conversations and discussions and in a variety of educative projects. For example, they may be used in school-arranged radio presentations, school festivals, or plans for improvements in the life of the school and of the community.

The growing literature in factual and fictional form designed to help the pupil solve his own personal problems and progress in the manifold activities of citizenship is an example of material that requires a special type of understanding and management. To illustrate, materials are being written which point the way toward a fruitful solution of typical children's problems, such as those imposed by some real or imagined physical or social handicap, the emotional unrest of early adolescence, the difficulties of entering a class full of strangers, or dealing with persons of other races and cultures. These various types of literature are not handled best under a general formula such as the teacher might employ in analyzing a wise choice of a typical adventure story. Each requires on the part of the teacher a certain background of understanding of the problems themselves as well as shrewd judgment of how best to guide each child in using the material to gain insight into his own problems.

CERTAIN BASIC TECHNIQUES ARE ESSENTIAL

Teachers are sometimes bewildered by the statement that the pupil should develop skills for reading a number of kinds of material for many purposes. He may wonder whether this means that there is an unlimited number of quite distinctive basal techniques. There are many, but certain groups of techniques represent a foundation upon which many combinations or patterns of reading skills depend. The following list may suggest, even though it does not describe, such a group of basal techniques.

Techniques of Word Recognition

Pupils need a variety of techniques in working out the recognition, pronunciation, and meaning of words, and adaptability in using them. Good techniques here would involve skill in observing the word as a whole; noting major parts, such as prefixes, suffixes, roots, or component words; isolating and pronouncing syllables; seeing and sounding letters singly and combined in "phonograms," such as *th, ain,* etc.; ability to unify the visual elements and to "blend" or unify the sound equivalents of the visual elements; and a shrewd knack of shifting from one approach to another and from one sound to another, for example, from short to long sound of vowels.

Techniques for Getting Meaning

Pupils need guidance in learning how to make effective use of context clues, such as the meaning of immediately preceding material or suggestions contained in an illustration or diagram. This skill needs to be supplemented by instruction in the use of all the resources at hand—the teacher and classmates as well as dictionaries, glossaries, encyclopedias, maps, charts, and other reference material.

Techniques for Adapting Reading Rate

The rate of reading must be fitted to the material and the purpose. Some things are best read at a rate of 100 words a minute, others at 200, others by a skip-and-skim process which may cover 600 or 1,000 or more words per minute. Far too many children and adults have become habituated to one speed of reading which they use on all materials and for all purposes. Ability to skip and skim at high rates is an exceedingly important practical technique for use in school and elsewhere. With proper instruction and guidance, any moderately intelligent child can learn to read well beyond the normal rate of speaking and to skip and skim two or more times as fast.

Techniques for Adapting Understanding to Purpose

Children need to learn to comprehend material with the degree of fullness or thoroughness of understanding required for the purpose at hand. They tend to adapt a more or less fixed level of

understanding with little differentiation according to the need. Thus, some read and remember far more detail than is necessary, for example, to get the "story" in recreational reading. These children may read with less thoroughness of understanding than is required for comprehending the directions for operating a gadget or for learning their history assignment. This art of adjusting the thoroughness of comprehension to suit the purpose is an important one to learn.

Techniques of Reading for Temporary or Permanent Use

Ability to read either for temporary comprehension or for permanent retention is an essential skill. When a child reads a newspaper or a story, he may need to comprehend only to satisfy a temporary concern. When, however, he is reading to learn a part in a drama or to remember for a long time certain significant principles in his physics textbook, a different technique must be brought into play. An important feature of this skill is the ability to skim the material to get the main points and then to review. The child must often review several times, on each occasion rereading only when he must and recalling from memory whenever he can. On the first review, the proportion of rereading will be relatively large and of real recall relatively small, but later the proportions are reversed. The child who rereads slavishly—actually reading every word and phrase—may take an interminable time to learn his part in a play. The art of combining rereading with recall is a rather subtle one, but it is important. Children need help in learning the technique in the lower grades, and in refining it in later years.

Combining Basic Skills

These are basal techniques or groups of abilities of great importance. Most of the diversified forms of reading represent new combinations or patterns of these basal techniques. Few types of reading can be done well unless these techniques are mastered. Indeed, the most important skills of all—the abilities to think, reason, evaluate, relate, and organize ideas during reading—

depend upon ability to skip and skim at different rates, to vary the degree and kind of comprehension, to combine reading and recall, and to shift from one to the other.

Such techniques form the foundation of reading ability and study skills in all the subject matter areas, but additional abilities must be acquired to achieve the highest competence in learning in certain areas. For example, efficiency of learning in physics requires in addition to these reading techniques the mastery of many technical terms, clear understanding of basal concepts, techniques of dealing with such specialized material as the mathematical and other symbolic formulas, and knowledge of the general strategy of attack. Often pupils' difficulties in learning in these subjects are alleged to be due to inability to read, when in fact they are the result of failure to learn the symbols, the concepts, or the detailed methods of dealing with the specialized symbolic and otherwise unique materials.

Advanced Techniques of Reading and Thinking

Research, much of it conducted during recent years, has suggested the need for teaching more thoroughly and in more detail than heretofore a much greater variety of subtle skills needed for reading, studying, and thinking at the upper elementary school, junior high school, and more advanced levels. Space is not available in this booklet even to indicate the range and variety of abilities which should be contained in such a program. The content of such a program is suggested, however, in *Reading: Grades 7, 8, 9*, prepared by a group of teachers in the New York City schools. (See bibliography, page 33.) It is confined to those reading abilities which are needed in two or more subject matter areas. To it should be added the reading skills called for only in one subject, such as history, mathematics, physics, or biology. Any teacher of reading in grade 4 and above, including high school and college, will profit from a study of this guide or similarly detailed accounts.

SOME CONTROVERSIAL ISSUES

Various methods of teaching reading are continually being suggested. Since it takes time and extensive research to determine

the relative merits of different procedures, a number of issues are in a state of discussion, or even controversy, at any one time. In the remainder of this booklet, we shall comment briefly on a few current controversial issues.

The Place of Phonics

Research has shown that certain phonic skills are useful to most children as means of learning to recognize words. The policy of confining instruction to intensive drills in one of several "systems" of phonics was introduced more than a century ago and was widely used by 1900. The limitations of this method were eventually recognized. For example, in one of the finest books ever written about reading, Huey in 1908 (reference 8, page 33) stated that the typical phonics drill program of that day "benumbed" children by its difficulty, monotony, and artificiality. He declared that "One can pick out the children who learned to read at home. They read naturally." (page 305)

The fact, demonstrated more than forty years ago (reference 8, page 32), that children who have been stone deaf since birth can learn to read readily shows that phonic ability is not indispensable for every child and that there are many other useful word-study and word-recognition techniques. Skill in handling unfamiliar words requires more than ability to name and sound the letters and the simpler phonograms. The child must know how to analyze words visually, how to achieve familiarity with their unique visual internal and external features, how to detect the distinctive and familiar characteristics and details, how to locate parts that can be translated into sounds and then "blend" or unify the component sounds. Ability to use suffixes, prefixes, and other "structural" features of words also is needed. In short, the child must acquire not merely one device, but a number of skills found to be useful in working out the recognition, pronunciation, and meaning of the great variety of words in our language. He must learn how to analyze an unfamiliar word by studying it so that the tell-tale features are seen as components of the word, not as isolated entities. Teaching the child to analyze the whole word into helpful components and characteristics enables him to practice doing exactly what he

must do when he encounters a word he does not recognize.

Most plans of teaching phonics are difficult in several respects. They perplex the child because so many single letters and combinations of letters are pronounced in a bewildering variety of ways in our language. Authors of phonic systems typically encourage excessive amounts of drill on particular phonograms and on general rules or principles. A number of proposals have therefore been made recently to reduce these difficulties. Among them are novel systems of phonetic principles, some of them growing out of research in linguistics. New methods of programing and otherwise teaching have appeared, and several new alphabets of more than forty "letters," one for each allegedly distinct sound in English words, have been proposed.

The Augmented Alphabets

Several augmented or "scientific" alphabets were tried out without much enthusiasm by teachers between 1890 and 1920. Huey's discussion of them is well worth reading (pages 265-312). Recently a number of new ones have appeared, such as the New Single-Sound Alphabet, the World English Spelling Alphabet, the Frank C. Laubach Alphabet, the Fry Diacritical Marking System, and the Pitman Initial Teaching Alphabet. Whether a new "letter" or symbol is made by using diacritical marks or by some other means is irrelevant to the question of the value of the extended alphabet in teaching reading. To the beginning child a new letter is a new letter, however it is made.

The purpose of an extended alphabet is to make the learning of the visual symbol-sound relationships more consistent and therefore easier. These schemes require, however, that the child first learn to recognize 43 or 44 "letters" and many words composed of them and later unlearn them when he encounters the more or less strange-looking conventional English words with all their old phonic complexities. The expanded alphabet is artificial, cumbersome, expensive (because of the costs of additional printed materials), and often perplexing (as when the child studies *wuns* and *ov cors yω nœ whot thæ'r liek* in school but sees *once* and *of course you know what they're like* elsewhere). It is thoroughly unsuitable to the many children who can learn to read easily without it. The scheme is justified only

if no better solution to the difficulty of teaching children how to work out the recognition and pronunciation of words can be found than teaching an additional, much longer alphabet, at least until such an alphabet is used in *all* printed material. Work now being done by teachers, psychologists, linguists, and others promises to produce easier and otherwise better solutions to the problem in the near future.

At this time (January 1967) research experts are not convinced that any extended alphabet now available has demonstrated its superiority over all others or that any one of them gives better results when taught to all children, indeed to any particular kind of child, than other procedures now available (references 5, 9, 10, 12, 15, page 32).

Individualized Instruction and Mechanical Devices

The proponents of "individualized teaching" offer not a new pattern of teaching, but a new emphasis of the familiar components. They recommend the elimination of many or even all of the fixed-in-advance materials and procedures such as basal readers, workbooks, and phonic systems. They suggest that the teacher tailor a program for each individual. They object to having a whole class or even one of three subdivisions of the group working on the same assignment at the same time. Fundamentally, the "individualized" teaching movement is a plea for more expertness, insight, and skill on the part of the teacher and for more time for individual guidance. Both are wholly admirable objectives. The advantages of carefully organized materials and procedures, however, need not be dispensed with nor used only for uniform instruction of large groups. Such a program can be adapted to individual differences.

The questions raised about individualized reading concern particular practices rather than the general theory. Many persons feel that the extremists make their own objectives more difficult to attain by failing to adapt all possible material aids to their purpose. This, moreover, is precisely the view of the proponents of a most powerful and promising proposal—programed learning.

Programed Materials

A number of eminent psychologists believe that learning can be greatly facilitated by reducing each activity or skill to a series of very minute steps. The teaching can then be programed in a sequence of units so detailed and fully controlled by a machine, scrambled book, or other pencil-and-paper device as to ensure learning the right and avoid learning the wrong response. Such a program may be largely or entirely self-teaching. These persons contend that a major fault of current teaching is that it proceeds by steps so large and imprecise that a learner can go astray at almost any point. Even the shrewdest teacher has difficulty in detecting these little slips. The history of remedial reading and certain earlier forms of practice materials bear out this contention. Some of the best remedial reading instruction represents in part an effort to proceed by this small-unit, check-up-every-step procedure. Very detailed work-type organizations, one of them composed of a thousand pages of material, were developed a third of a century ago for teaching reading to very young children and to children who had been deaf or otherwise disabled since birth. These were programed materials. Although by modern standards they were crude, poorly controlled, and inadequate in many ways, they worked very well.

Many other possibilities for improving reading instruction are now at hand. We have barely made a beginning in exploring ways of using sound motion pictures and television to demonstrate in slow motion effective methods of tackling unfamiliar words or methods of rapid reading and skimming and other skills. These devices can also make the unique artistry of master teachers available in every classroom. Effectively used, first-class programed materials and other aids will not replace the teacher. A physician or surgeon is not made less important or less helpful by giving him more and better tools with which to work. On the contrary, better equipment increases his insight, effectiveness, and prestige. The same should be true of the teacher.

At this point, however, a word of caution is in order. The next few years will witness a flood of new programed materials, teaching machines, canned television and sound-motion picture sequences, "skill-builder" booklets, phonic systems, workbooks,

and other materials and gadgets. Many of these may be inexpertly conceived and hastily prepared. Sales campaigns of unprecedented vigor and volume may be launched. The panicky spirit of the times may feed the urge toward hasty changes. Under these circumstances, the classroom teacher should be calm and cautious. He should realize that a novice, untrained in the field of reading, is as unlikely to make a good program in reading as a hack songster is to compose a fine opera. Indeed, for precisely the reason that programed material requires that the best general pattern of reading abilities be reduced to very minute and rigorously controlled steps, the highest degree of expertness is necessary. Teachers, however, should not be overawed by mechanical or psychological mysteries. Programed materials are, after all, merely materials similar in nature to printed workbooks. Teachers should study and judge them with care and confidence.

The heart of the teaching machine is the program which it presents. The teaching machine is merely a device, exactly as a sound motion picture projector is a mechanism for presenting material. The teaching machine program may be good or bad, exactly as a motion picture program may be. This new type of teaching machine should not be confused, however, with certain other mechanical devices which have been developed as teaching aids. Each should be appraised in terms of certain principles. For example, machines which expose a line of print in parts, such as three or four phrases, one after another, are recommended to increase the rate of reading. While such a machine may have value for demonstration purposes, it does not really teach the pupil to read as he should read in a normal situation, and it forces him to learn adjustments that do not exist when he sits down to read a book by himself. A book will not conveniently flash the phrases one after another as the mechanical apparatus does. A pupil may learn to read "thought units" when the machine forces them on him, but he may read a book in quite another way. Another popular pacing machine requires that the teacher or pupil place a book under the metal covering, turn on the motor, and then try to keep reading the lines as a metal shutter moves down the page covering line after line. This calls for a less artificial departure from the natural situation than some other gadgets, but the same effect can be obtained

with less distraction without the machine. All the pupil needs is a piece of cardboard which he himself moves down the page at a pace to suit his ability. He can force the pace as he desires; he can make it faster or slower or skip back and repeat a line as needed. Every such device—mechanical or other—should be appraised in terms of the extent to which it introduces artificial factors, distorts the natural process, or lacks proper flexibility and adaptability to the reader's needs.

Teaching the Complex and Subtle Forms of Thinking

Proponents of programed materials, teaching machines, practice materials, and other procedures organized in detail sometimes give the impression that these devices can handle all the desirable features of a complete reading program. They cannot. Indeed, they cannot fully develop all the technical skills. For example, the youngster truly gifted in word recognition exhibits an adaptability and flexibility in sizing up and attacking an unfamiliar word that can only be regarded as a uniquely evolved pattern. The lively world of today presents to every child and adult innumerable situations in which the solution is uncertain or unknown. Often the correct solution cannot be programed for the reason that no one knows what it is. No person or machine could have programed Darwin's principle of evolution before Darwin conceived it. The children in your classes, you say, are not Darwins. Oh, yes, they are! They are in the sense that their lives are full of little problems as perplexing and undefined for them as Darwin's big problems were for him. And they must be solved, in the same general way, by mental maneuvers which could not possibly be foreseen by any maker of programed materials. It is here that expert teaching cannot be rigidly fixed in advance and must not be controlled. The critical need for this type of instruction makes the teacher indispensable. To develop greater skill in this type of guidance is the surest means of increasing a teacher's prestige and productiveness. Lest it be thought that we are speaking of esoteric procedures and rare occasions, let us illustrate the fact that everyday activities and events provide opportunities for fostering or discouraging children's innate tendencies to use their highest intellectual resources.

Suppose the teacher has written down in advance or found in the Teachers Manual five questions to ask the pupils after they have read a selection. During the discussion of the first question an alert class may bring up a point of great interest and importance to them—an idea which might lead to a most fruitful kind of exploration, including further reading and other activities. But the teacher who is following a routine must get on with his questions, so he poses question number two, thus crushing a vital learning experience before it develops. It may be worse than that. The pupils may find not only that their interest is killed but also that they have somehow become a little hostile toward any further discussion of the selection.

These statements should not be interpreted as a criticism of pursuing a comprehensive plan of progressing from one level to another in teaching reading. They are not made as a criticism of the plan of using an abundance of ready-made material. They are made solely to point out the error of assuming that any kind of program, even the most rigorously organized one, will teach children to read and think at their highest levels without a sagacious classroom teacher. Many organized programs and series of teaching materials have great diagnostic and guidance values; they may serve to give the pupil greater enjoyment and self-understanding, but they are not alone sufficient. They should be used flexibly. They should be employed not as a substitute for insight and guidance, but as a means of securing greater understanding and better individual instruction. Expert teaching, in brief, makes good use of both programed activities and what may be called original, Darwinian, or Socratic explorations.

Laissez-Faire Methods

At the opposite extreme from following slavishly a fixed routine or formula is a policy sometimes mistaken for "progressive education" or a sound "activity program," in which the teacher assumes that his task is mainly to get the children vigorously active and that good learning will naturally and necessarily follow. He assumes that wholehearted activity will enable pupils to learn well. Further, he assumes that when a pupil is failing to master a technique or is confused the cause lies in immaturity and lack of challenge which will straighten out in time.

The basic fault of this procedure is the same as that of the fixed routine or formal drill procedure. It fails to give the pupils adequate guidance. Among the pupils of a teacher who does not demonstrate the desirable reading skills, who does not guide practice into channels directed at their acquisition, who does not see and promptly correct any faulty techniques, and who does not give the pupil some insight into his own learning, will be many who neither learn to read well nor to love to read. In brief, under such teaching children may not even acquire the basal interests and skills upon which the more subtle forms of reading and thinking depend.

Research Is Needed on New Proposals

Some of the materials and procedures proposed recently have been supported by extensive promotional campaigns. They need to be tested by valid experimental tryouts in many different schools for a sufficient number of years to eliminate such irrelevant but potent influences as initial novelty and teachers' enthusiasm. The relative merits of such new procedures as team teaching, various phonic methods, particular teaching machines, augmented alphabets, etc., have not been demonstrated even for the majority of children, much less for a particular child in a particular community when taught by *you*, a particular teacher. Even if a thoroughgoing "control group" study should show that Method A produces better *average* results than Method B, this finding does not mean that A is superior for all pupils. Examination of the data will almost certainly show that B is as good as A for a number of children and clearly better for several. Indeed, as yet untested Methods C and D or unborn methods E and F may be better than either A or B for certain children. The great need now is for research designed to enable the teacher to tell which type of material and method is best for each child. It is now clear that a method or procedure highly useful for one child may be thoroughly unsuitable for another. The not too distant future will produce new materials, devices, and procedures which will enable the teacher to provide sagacious guidance based on expert diagnosis of each child. Such a teacher will find, as did one who described her work recently, that "reading is a personal affair"; that "the personalized-approach is rewarding for the

teacher . . . and releases unplumbed depths of interest, ability, and individuality" in the child. (See reference 11, page 32)

PUBLIC UNDERSTANDING IS NECESSARY

Many of the methods and instructional materials used today in teaching reading have evolved from, or have at least been suggested by, educational and psychological research. At the present time an unusually large and perplexing variety of new proposals are being made. This "growing edge" is necessary, but it must be understood by the public, especially by parents, if destructive criticism is to be avoided. Parents who understand and accept a modern teaching program usually become a potent influence in helping the child to learn. When a mother storms to the school to protest against what she imagines to be a faulty or unfair practice, it is likely that things have already happened in the home which are having an unfavorable—indeed, sometimes a disastrous—influence on the pupil's efforts to learn. Had the mother understood the school's policy, provided it was a good one, the home life might have been organized in such a way as to assist the pupil greatly.

When parents understand current good practice in oral reading, for example, they are unlikely to make the mistake of criticizing the pupil's mistakes when he reads aloud at home. They will know that sight reading is difficult, that mistakes are inevitable, and that the most important thing is to avoid making a child nervous and apprehensive when he reads aloud, while making sure that his efforts, however faulty, are encouraged and appreciated. Parental cooperation, properly employed, greatly helps the teacher develop a child's ability to read and reinforces his love for reading.

TOPICS FOR FURTHER STUDY

To survey the research and trends in reading instruction, teachers may consult yearbooks and conference proceedings such as the following:

1. Selected yearbooks of the National Society for the Study of Education: Twenty-Fourth Yearbook, Part 1; Thirty-Sixth Yearbook, Part 1; Forty-Seventh Yearbook, Part 2; Forty-Eighth Yearbook, Part 2; and the Sixtieth Yearbook, Part 1, distributed by the University of Chicago Press.

2. International Reading Association Conference Proceedings, published annually since 1956 by Scholastic Magazines, New York, New York 10036.

3. American Educational Research Association. *Encyclopedia of Educational Research.* Third edition. (Edited by Chester W. Harris.) New York: Macmillan Co., 1960.

4. American Educational Research Association. *Review of Educational Research.* Five issues annually. Washington, D.C.: the Association, a department of the National Education Association. Issue on language arts every three years.

5. Several journals such as *Elementary English,* The National Council of Teachers of English, 508 S. Sixth Street, Champaign, Illinois; *Elementary School Journal,* University of Chicago Press, 5750 Ellis Avenue, Chicago, Illinois 60637; *Journal of Educational Research,* Dembar Publications, Madison, Wisconsin; *Journal of Reading* and *Reading Teacher,* published by the International Reading Association, P.O. Box 695, Newark, Delaware 19711, include frequent reviews and appraisals of research studies.

Following are a few examples of questions for discussion. The numbers in parentheses refer to citations listed on page 32.

1. How do modern reading materials compare with older ones as means of teaching spiritual values? (1)

2. Can primary grade children read only words taught in their basal readers? (6)

3. What can be accomplished by a reading readiness program? (2, 4)

4. Will teaching machines replace the teacher? (3, 7)

5. What are the possibilities of programing the teaching of reading? (3)

6. Should the elementary teacher be able to make a case study? (7, 11)

7. How useful are the new augmented alphabets? (5, 9, 10, 12, 15)

8. How useful are the machines designed to increase reading speed? (16)

9. What is the effect of televiewing on reading? (14, 17)

10. Do some children learn to read well at ages three to six? (4)

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